

Claims

1 1. A fire exit alert system comprising:
2 fire exit door hardware having a case;
3 a control circuit mounted in the fire exit door hardware case, the control circuit
4 including:
5 a storage element for storing a voice signal, the voice signal indicating in
6 words that the source of the voice signal is an exit;
7 a trigger input adapted for receiving a fire detection signal from a fire
8 detection system;
9 a speaker output; and
10 a light source output;
11 a speaker connected to the speaker output of the control circuit for broadcasting
12 an audibly locatable signal, comprising at least the voice signal, to indicate
13 that the source of the voice signal is an exit; and
14 a light source connected to the light source output for providing a visually
15 locatable indication of the location of the fire exit alert system;
16 the control circuit turning on the light source, retrieving the voice signal from
17 the storage element and repeatedly sending the voice signal to the speaker
18 output upon receipt of the fire detection signal.

1 2. The fire exit alert system of claim 1 wherein the control circuit coordinates
2 the repeated voice signal and the light source by flashing the light source when the
3 voice signal is indicating that the source of the voice signal is an exit.

1 3. The fire exit alert system of claim 1 wherein the voice signal includes the
2 word "HERE" to indicate that the source of the voice signal is an exit, and the
3 control circuit coordinates the repeated voice signal and the light source by flashing
4 the light source when the word "HERE" is sent to the speaker output.

1 4. The fire exit alert system of claim 1 wherein the light source is a strobe light
2 and wherein the control circuit coordinates the repeated voice signal and the light
3 source by flashing the strobe light at the moment the voice signal is indicating that
4 the source of the voice signal is an exit.

1 5. The fire exit alert system of claim 1 wherein the light source is a laser.

1 6. The fire exit alert system of claim 5 wherein the laser produces a cone
2 having an apex at the fire exit alert system to provide a visual direction guide
3 towards the fire exit alert system.

1 7. The fire exit alert system of claim 1 wherein the light source is a strobe light
2 and the fire exit alert system further includes a second light source comprising a
3 laser.

1 8. The fire exit alert system of claim 7 wherein the control circuit coordinates
2 the repeated voice signal and at least one of the light sources by activating at least
3 one of the light sources when the voice signal is indicating that the source of the
4 voice signal is an exit.

1 9. The fire exit alert system of claim 7 wherein the control circuit coordinates
2 the repeated voice signal and the strobe light by flashing the strobe light when the
3 voice signal is indicating that the source of the voice signal is an exit.

1 10. The fire exit alert system of claim 1 wherein the control circuit further
2 includes a white noise signal generator, the control circuit sending the white noise
3 signal to the speaker output to produce an additional audibly locatable signal.

1 11. The fire exit alert system of claim 1 wherein the control circuit alternately
2 sends the white noise signal and the voice signal to the speaker output.

1 12. The fire exit alert system of claim 1 wherein the fire exit door hardware
2 comprises an exit device having a latch for engaging a door frame of a fire exit
3 door.

1 13. The fire exit alert system of claim 1 wherein the fire exit door hardware
2 comprises an automatic door closer.

1 14. The fire exit alert system of claim 1 wherein the control circuit further
2 includes a reset input for receiving a reset signal, the control circuit turning off the
3 light source and the speaker output upon receipt of the reset signal.

1 15. The fire exit alert system of claim 1 further including a backup battery for
2 powering the fire exit alert system during a power failure.

1 16. The fire exit alert system of claim 1 further including a smoke detector
2 connected to the trigger input of the control circuit.

1 17. The fire exit alert system of claim 1 further including a heat detector
2 connected to the trigger input of the control circuit.

1 18. The fire exit alert system of claim 1 further including an illuminated exit
2 sign.

1 19. The fire exit alert system of claim 18 where in the illuminated exit sign
2 comprises an electroluminescent illuminated exit sign.

1 20. A fire exit alert system comprising:
2 an exit device for a fire exit door, the exit device having a case;
3 a control circuit mounted in the exit device case, the control circuit including:

4 a storage element for storing a voice signal, the voice signal indicating in
5 words that the source of the voice signal is an exit;
6 a trigger input adapted for receiving a fire detection signal from a fire
7 detection system;
8 a white noise signal generator;
9 a speaker output; and
10 first and second light source outputs;
11 a speaker connected to the speaker output of the control circuit for repeatedly
12 broadcasting the voice signal and the white noise signal to provide an
13 audible direction guide towards the fire exit alert system;
14 a strobe light connected to the first light source output; and
15 a laser connected to the second light source output, the laser producing a cone
16 having an apex at the fire exit alert system to provide a visual direction guide
17 towards the fire exit alert system;
18 the control circuit flashing the strobe light in coordination with the voice signal.

1 21. A fire exit alert system comprising:
2 an automatic door closer for a fire exit door, the door closer having a case;
3 a control circuit mounted in the door closer case, the control circuit including:
4 a storage element for storing a voice signal, the voice signal indicating in
5 words that the source of the voice signal is an exit;
6 a trigger input adapted for receiving a fire detection signal from a fire
7 detection system;
8 a white noise signal generator;
9 a speaker output; and
10 first and second light source outputs;
11 a speaker connected to the speaker output of the control circuit for repeatedly
12 broadcasting the voice signal and the white noise signal to provide an
13 audible direction guide towards the fire exit alert system;
14 a strobe light connected to the first light source output; and

15 a laser connected to the second light source output, the laser producing a cone
16 having an apex at the fire exit alert system to provide a visual direction guide
17 towards the fire exit alert system;
18 the control circuit flashing the strobe light in coordination with the voice signal.

1 22. A fire exit alert system comprising:
2 a control circuit including:
3 a storage element for storing a voice signal, the voice signal indicating in
4 words that the source of the voice signal is an exit;
5 a trigger input adapted for receiving a fire detection signal from a fire
6 detection system;
7 a speaker output; and
8 a light source output;
9 a speaker connected to the speaker output of the control circuit for broadcasting
10 an audibly locatable signal, comprising at least the voice signal, to indicate
11 that the source of the voice signal is an exit; and
12 a light source connected to the light source output for providing a visually
13 locatable indication of the location of the fire exit alert system;
14 the control circuit turning on the light source, retrieving the voice signal from
15 the storage element and repeatedly sending the voice signal to the speaker
16 output upon receipt of the fire detection signal.

1 23. The fire exit alert system of claim 22 wherein the control circuit coordinates
2 the repeated voice signal and the light source by flashing the light source when the
3 voice signal is indicating that the source of the voice signal is an exit.

1 24. The fire exit alert system of claim 22 wherein the voice signal includes the
2 word "HERE" to indicate that the source of the voice signal is an exit, and the
3 control circuit coordinates the repeated voice signal and the light source by flashing
4 the light source when the word "HERE" is sent to the speaker output.

1 25. The fire exit alert system of claim 22 wherein the light source is a strobe light
2 and wherein the control circuit coordinates the repeated voice signal and the light
3 source by flashing the strobe light at the moment the voice signal is indicating that
4 the source of the voice signal is an exit.

1 26. The fire exit alert system of claim 22 wherein the light source is a laser.

1 27. The fire exit alert system of claim 26 wherein the laser produces a cone
2 having an apex at the fire exit alert system to provide a visual direction guide
3 towards the fire exit alert system.

1 28. The fire exit alert system of claim 22 wherein the light source is a strobe light
2 and the fire exit alert system further includes a second light source comprising a
3 laser.

1 29. The fire exit alert system of claim 28 wherein the control circuit coordinates
2 the repeated voice signal and at least one of the light sources by activating at least
3 one of the light sources when the voice signal is indicating that the source of the
4 voice signal is an exit.

1 30. The fire exit alert system of claim 28 wherein the control circuit coordinates
2 the repeated voice signal and the strobe light by flashing the strobe light when the
3 voice signal is indicating that the source of the voice signal is an exit.

1 31. The fire exit alert system of claim 22 wherein the control circuit further
2 includes a white noise signal generator, the control circuit sending the white noise
3 signal to the speaker output to produce an additional audibly locatable signal.

1 32. The fire exit alert system of claim 22 wherein the control circuit alternately
2 sends the white noise signal and the voice signal to the speaker output.